Remarks:

Reconsideration of the application is respectfully requested.

Claims 1 - 25 are presently pending in the application. No claims have been amended or canceled. The specification has been amended to correct a typographical error.

In paragraph 4 of the above-identified Office Action, it was noted that documents J, K and L of an information disclosure statement (IDS) filed on September 10, 2003 did not contain a concise explanation of relevance, those references have been placed in the file, but not considered. In paragraph 5 of the Office Action it was stated that "[i]f the Applicant wishes for the German Documents to be considered on their independent merits, a new information disclosure document for those documents must be submitted along with a concise explanation of relevance".

Applicants would like to point out that, in the Amendment filed in the present case on July 12, 2004, it was pointed out that references J, K and L correspond to U. S. Patent Nos. 5,784,636 to Rupp, 5,794,062 to Baxter and 6,061,367 to Siemers, listed in the same IDS including references J, K and L, as references B, C and D, respectively. As complete English language versions of the references J, K and L were simultaneously submitted with the German versions in the IDS

of September 8, 2003, it is believed that no statement of relevance is required in order to have these German references considered. This is supported by Section 609 of the MPEP, which states:

> "If a complete translation of the information into English is submitted with the non-English language information, no concise explanation is required. An English-language equivalent application may be submitted to fulfill this requirement if it is, in fact, a translation of a foreign language application being listed in an information disclosure statement."

As such, Applicants believe that everything necessary to the consideration of those German references has already been provided in the present case, and consideration of the references J, K and L, corresponding to English language references B, C and D listed on the same IDS, is respectfully requested.

In paragraph 7 of the above-identified Office Action, claims 1 - 11, 16 - 22 and 24 - 25 were rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by U. S. Patent No. 5,794,062 to Baxter ("**BAXTER**").

In paragraph 29 of the Office Action, claims 12 - 14 were rejected under 35 U.S.C. § 103(a) as allegedly being obvious over **BAXTER** in view of U. S. Patent No. 5,784,636 to Rupp ("**RUPP**"). In paragraph 33 of the Office Action, claim 15 was

rejected under 35 U.S.C. § 103(a) as allegedly being obvious over **BAXTER** in view of **RUPP**, and further in view of Hennessy ("**HENNESSY**"). In paragraph 35 of the Office Action, claim 23 was rejected under 35 U.S.C. § 103(a) as allegedly being obvious over **BAXTER** in view of DeHon ("**DEHON**").

Applicants respectfully traverse the above rejections.

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful. helpful. The sole independent claim of the present application, claim 1, recites, a configurable hardware block including:

> "**a universal configurable unit** being selectively configured to read data stored in a memory unit, to process the data in at least one of arithmetic and logical processing units, and to write data representing a result of the processing to the memory unit, the universal configurable unit having **an asynchronous combinational circuit to asynchronously link components** of the universal configurable unit, and the universal configurable unit being capable of interacting autonomously with external hardware." [emphasis added by Applicants]

As stated in the response to the previous Office Action, the **BAXTER** reference discloses system for dynamically reconfigurable computing using a processing unit with changeable internal hardware. More specifically, the system in **BAXTER** includes a set of S-machines each having a

corresponding T-machine, which are coupled to a General Purpose Interconnect Matrix that is coupled to a set of I/O T-machines, a set of I/O devices, **and a master time-base unit.** While each S-machine in **BAXTER** is a dynamically reconfigurable computer having a memory and a Dynamically Reconfigurable Processing Unit (DRPU), **the BAXTER systems are not "asynchronously" linked as recited in claim 1 of the instant application**. Nor are the devices in **BAXTER** capable of **"interacting autonomously with external hardware"** as recited in claim 1 of the instant application.

In response to Applicants' argument that **BAXTER** (as set forth above) and the other cited references don't teach or suggest "asynchronously" linked components, as recited in Applicants' claim 1, the current Office Action states, in item 38 of the Office Action:

> "Applicant has argued that neither Baxter, Rupp, DeHon nor Hennessy asynchronously link the S-machines (components of the universal configurable unit) nor does Baxter disclose these devices interacting autonomously with external hardware as recited in claim 1. As shown in figure 1 and column 10, lines 36 - 39 show that the GPIM (General Purpose Interconnect Matrix - element 16) is used to transfer data between S-machines (configurable hardware block (column 10, lines 33 - 34)) or link the S - machine components. Column 11, lines 24 - 29 show that the S-machines each have their own independent clock rates relative to any other S-machine. **This means that in order for the GPIM to facilitate communication, it must be an asynchronous circuit because there is no coherence is clock signals.** Figure 16 shows the structural makeup of the GPIM (column 10, lines 1 - 3) **and there is no indication of**

> **any sort of synchronous control that links all the data of lines 380 and 382.** Column 10, lines 39-45 along with figure 1 show that each S-machine is capable of interacting with external hardware. This interaction is autonomous since each S-machine performs such interaction independent from every other S-machine. This would be further facilitated with the above cited section showing that each S-unit has independent timing and thus each act independently in communication with external devices. Thus a universal configurable unit is disclosed as called for in claim 1." [emphasis added by Applicants']

Applicants respectfully disagree with the statements made in the Office Action suggesting that the **BAXTER** reference teaches asynchronous operation. As shown in Fig. 1 of **BAXTER**, reproduced herebelow, the system 10 of **BAXTER** is synchronized to a **master timing signal** 22.

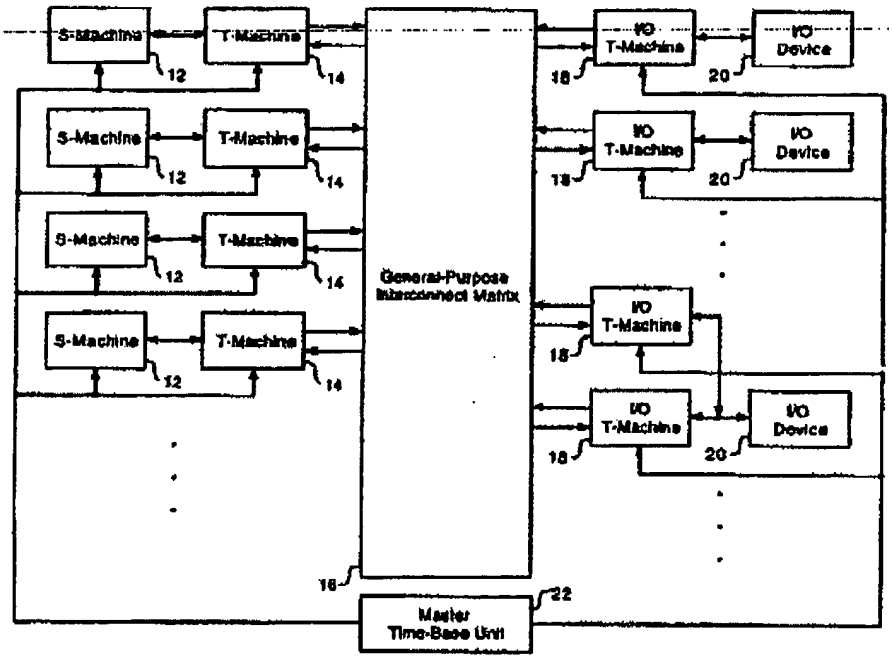


FIG. 1

Col. 5 of **BAXTER**, lines 2 - 4, states:

"The master time-base unit provides a system-wide frequency reference to each S-machine, T-machine, and I/O T-machine." [emphasis added by Applicants]

Col. 10 of **BAXTER**, lines 23 - 27, states:

"Each of the S-machines 12, T-machines 14, and I/O T-machines 18 **has a master timing input coupled to a timing output of the master time-base unit 22.**" [emphasis added by Applicants]

See also, col. 10 of **BAXTER**, lines 42 - 45, which states:

"The **master time-base unit 22 comprises an oscillator that provides a master timing signal to each S-machine** 12 and T-machine 14" [emphasis added by Applicants]

The S-machines of **BAXTER** use master timing signal to generate a local timing signal, as described in **BAXTER**, col. 10, line 65 - col. 11, line 7:

"The S-machine 12 comprises a first local time-base unit 30, a Dynamically Reconfigurable Processing Unit (DRPU) 32 for executing program instructions, and a memory 34. **The first local time-base unit 30 has a timing input that forms the S-machine's master timing input.** The first local time-base unit 30 also has a timing output that provides a first local timing signal or clock to a timing input of the DRPU 32 and a timing input of the memory 34 via a first timing signal line 40." [emphasis added by Applicants]

Although, col. 11 of **BAXTER**, lines 24 - 28, states:

"**In the preferred embodiment, the first local timing signal can vary from one S-machine 12 to another. Thus, the DRPU 32 and the memory 34 within a given S-machine 12 function at an independent clock rate**

> **relative to the DRPU 32 and the memory 34 within any other S- machine 12.** Preferably, the first local timing signal is phase-synchronized with the master timing signal."

The above does not mean the **system 10 of BAXTER is asynchronous**. As will be shown, **the BAXTER system, itself, is not "asynchronously" linked as recited in claim 1 of the instant application.**

As stated in col. 5 of **BAXTER,** lines 35 - 37:

> "In the preferred embodiment, a given S-machine's memory is accessible to any other S-machine in the system **via the GPIM and its corresponding T-machine**." [emphasis added by Applicants]

~~And, although BAXTER discloses that the local timing signals~~ of each S-machine may function at a clock rate independent of the clock rate of the local timing signals of another S-machine, **BAXTER** teaches that the local timing signals of the T-machines connected between each S-machine and the GPIM are, preferably, **identical to one another.**

More particularly, col. 31, line 52 - col. 32, line 3, states:

> **"The second local time-base unit 300 within the T-machine 14 receives the master timing signal from the master time-base unit 22, and generates a second local timing signal.** The second local time-base unit 300 delivers the second local timing signal to the common interface and control unit 302, **thereby providing a**

> **timing reference for the T-machine 14 in which it resides.** Preferably, the second local timing signal is phase-synchronized with the master timing signal. **Within the system 10, each T-machine's second local time-base unit 300 preferably operates at an identical frequency.** Those skilled in the art will recognize that in an alternate embodiment, one or more second local time-base units 300 could operate at different frequencies. The second local time-base unit 300 is preferably implemented using conventional phase-locked frequency-conversion circuitry, including CLB-based phase-lock detection circuitry. Those skilled in the art will recognize that in an alternate embodiment, the second local time-base unit 300 could be implemented as a portion of a clock distribution tree." [emphasis added by Applicants]

An alternate embodiment with differing second local time base unit frequencies is mentioned, but not discussed or enabled.

In view thereof, Applicants respectfully disagree with the statement made in item 38 of the Office Action, stating:

> "Column 11, lines 24 - 29 shown that the S-machines each have their own independent clock rates relative to any other S-machine. This means that in order for the GPIM to facilitate communication, it must be an asynchronous circuit **because there is no coherence is [sic] clock signals.**" [emphasis added by Applicants]

The S-machines of **BAXTER** do not communicated directly with the GPIM. As shown in Fig. 1 of **BAXTER, the state machines communicate with the GPIM** through the T-machines, and as taught in **BAXTER, the T-machines preferably have a coherent, timing signal in which all T-machines operate at an identical frequency.** Thus, the coherence in clock signal to the GPIM is provided by the T-machines, as it is the purpose of the T-

machines to provide the interface between the S-machines and the GPIM.

As such, Applicants believe that **BAXTER** does not show, among other limitations, "**a universal configurable unit** ... having **an asynchronous combinational circuit to asynchronously link** components of the universal configurable unit" as recited in claim 1 of the instant application.

Applicants additionally incorporate the arguments of the previous response herein, relating to the cited references failures to teach or suggest, among other things, "interacting autonomously with external hardware" and individual limitations of the dependent claims.

It is accordingly believed that none of the references, whether taken alone or in any combination, teach or suggest the features of claim 1. Claim 1 is, therefore, believed to be patentable over the art. The dependent claims are believed to be patentable as well because they all are ultimately dependent on claim 1. As it is believed that the claims were patentable over the cited art in their original form, the claims have not been amended to overcome the references.

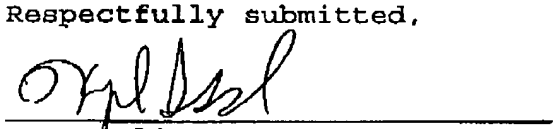
In view of the foregoing, reconsideration and allowance of claims 1 - 25 are solicited.

In the event the Examiner should still find any of the claims to be unpatentable, counsel would appreciate receiving a telephone call so that, if possible, patentable language can be worked out. In the alternative, the entry of the amendment is requested, as it is believed to place the application in better condition for appeal, without requiring extension of the field of search.

If an extension of time for this paper is required, petition for extension is herewith made.

Please charge any fees that might be due with respect to Sections 1.16 and 1.17 to the Deposit Account of Lerner and Greenberg, P.A., No. 12-1099.

Respectfully submitted,



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April 5, 2005

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